

WHAT IS CLAIMED IS:

1. A method for forming a substantially cylindrical window for an intracorporeal device, comprising:

placing at least partially within a mold an assembly with a longitudinal axis, said assembly comprising a proximal tubular member, a distal member, a window preform comprising a material that may soften, said window preform being disposed between said proximal tubular member and said distal member, and a mandrel disposed along said longitudinal axis at least partially within said proximal tubular member, said window preform, and said distal member;

softening said window preform; and

applying force effective to urge together said proximal tubular member and said distal member effective to deform said window preform to form a window.

2. The method of claim 1, wherein said step of softening the window preform comprises heating the window preform.

3. The method of claim 1, wherein said applying force step occurs during or following said step of softening the window preform.

4. The method of claim 2, further comprising cooling the assembly.

5. The method of claim 4, further comprising removing the assembly from the mold.

6. The method of claim 5, wherein the step of removing the assembly from the mold further comprises heating.

7. The method of claim 5, further comprising removing the mandrel from the assembly.

8. The method of claim 7, wherein the step of removing the mandrel further comprises heating.

9. The method of claim 1, wherein the window preform comprises a polymeric material.

10. The method of claim 1, wherein the window preform comprises a combination of polymeric materials.

11. The method of claim 1, wherein the window preform comprises a resin that is at least partially uncured.

12. The method of claim 1, wherein the window preform comprises a combination of resins at least some of which are at least partially uncured.

13. The method of claim 1, where the window preform comprises a material selected from the group consisting of acrylic, polycarbonate, nylon, polytetrafluoroethylene (Teflon®), polyethylene terephthalate (PET), tensilized PET, resins, and blends thereof.

14. The method of claim 1, wherein the window preform has a length of between about 1 mm and about 11 mm.

15. The method of claim 2, wherein the step of heating the window preform is effected by at least one method selected from the group consisting of induction heating,

conduction heating, infra-red radiation, ultrasonic heating, friction heating, hot air heating and allowing the temperature of the window preform to rise to ambient temperature.

16. The method of claim 15, wherein the step of heating the window preform comprises hot air heating.

17. The method of claim 16, wherein the temperature of hot air used for hot air heating is between about 300° F and about 500° F.

18. The method of claim 1, wherein the mandrel has a distal end, and wherein said distal end is polished.

19. The method of claim 1, wherein the mold comprises a material selected from the group consisting of metal, glass, plastic, ceramic, polymer, and combinations thereof.

20. A window for an intracorporeal device formed by the method of claim 1.

21. The window for an intracorporeal device of claim 20, wherein the window has a length of between about 0.3 mm and about 10 mm.

22. The window for an intracorporeal device of claim 20, wherein the window has a length of between about 1 mm and about 5 mm.

23. An intracorporeal device comprising a window formed by the method of claim 1.

24. The intracorporeal device of claim 23, wherein the device comprises a device selected from the group consisting of an imaging device, an imaging guidewire, an imaging catheter, and an endoscope.

25. A method for joining a plastic part with a tubular member, comprising:

placing at least partially within a mold an assembly with a longitudinal axis, said assembly comprising a tubular member, a plastic preform, said plastic preform comprising a material that may soften, and a mandrel disposed along said longitudinal axis at least partially within said tubular member and said plastic preform;

softening said plastic preform; and

applying force effective to urge together said tubular member and said plastic preform effective to deform said plastic preform and to join said plastic preform to said tubular member.

26. The method of claim 25, wherein said step of softening said plastic preform comprises heating said plastic preform.

27. The method of claim 26, wherein said plastic preform deforms during or after said step of heating the plastic preform.

28. The method of claim 25, wherein said applying force step occurs during or following said step of softening the plastic preform.

29. The method of claim 25, wherein said tubular member comprises a metal.

30. The method of claim 25, wherein said tubular member comprises a ceramic.

31. A method for forming a substantially annular window for an intracorporeal device, comprising:

placing at least partially within a translucent mold an assembly with a longitudinal axis, said assembly comprising a proximal tubular member, a distal member, a window preform comprising a material that softens when illuminated, said window preform being disposed between said proximal tubular member and said distal member, and a mandrel disposed along said longitudinal axis at least partially within said proximal tubular member, said window preform, and said distal member;

illuminating the window preform effective to soften said window preform disposed between said proximal tubular member and said distal member; and

applying force effective to urge together said proximal tubular member and said distal member effective to deform said window preform to form a window.

32. The method of claim 31, wherein said illumination comprises illumination selected from the group consisting of illumination with ultraviolet light, illumination with visible light, and illumination with infrared light.

33. An intracorporeal device comprising a proximal portion, a distal portion, and a window secured to and between said proximal and distal portions, said window and said proximal and distal device portions being formed of materials having melt temperatures, said window material having a melt temperature below that of the melt temperatures of said proximal and distal device portions.

34. An intracorporeal device comprising a proximal portion, a distal portion, and a window directly contacting and secured to said proximal and distal device portions.